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**Experimental evidence for a causal effect of pair-bond duration on reproductive performance in oystercatchers (*Haematopus ostralegus*)**

van de Pol, Martijn; Heg, Dik; Bruinzeel, Leo W.; Kuijper, Bram; Verhulst, Simon

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Many studies suggest that reproductive performance improves during the pair-bond, which implies that it pays to re-mate with the same partner every year. Such an effect can explain why in many species males and females form long-term monogamous pair-bonds. However, discussion exists about whether the association between reproductive performance and pair-bond duration that is reported in studies reflects a causal relationship. An experimental approach, which can distinguish between alternative causal pathways, has been lacking so far. In this study we investigated the effect of pair-bond duration on reproductive performance in a long-lived monogamous bird species based on natural and experimental variation. The duration of Oystercatcher (*Haematopus ostralegus*) pair-bonds, which were followed for 21-years, strongly affected reproductive output. The number of young produced per year improved during a pair-bond, while there were no indications that low-quality pairs divorced more often. Unexpectedly, pairs that stayed together for over 10 years performed badly. As predicted, experimental divorcing and subsequent re-mating with a new partner did not result in a cost of divorce for young pairs, while breaking up a long 'marriage' did result in a cost of divorce. After re-mating, newly formed pairs improved again over the next four years. This study provides the first experimental evidence of a causal effect of pair-bond duration on reproductive performance. We suggest that the mechanism behind a positive effect of familiar mate lies in improved coordination and cooperation between pair-members, or that familiar pair-members increase their parental investment because they have build up a trust-relationship.